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AUTHOR(S):

EKERETE, Paulinus P.

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AN ASSESSMENT OF THE EFFECT OF PROMOTIONAL STRATEGY FOR NATIONAL PROGRAMME ON IMMUNIZATION (NPI) AND ORAL REHYDRATION THERAPY (ORT) IN NIGERIA

Paulinus P. EKERETE
Department of Business Administration,
Rivers State University of Science and Technology

ABSTRACT The National Programme on Immunization (NPI) and Oral Rehydration Therapy (ORT) was launched in 1978 in Nigeria. NPI aimed to immunize 80% of all children age 0-24 months before 1990 and to vaccinate 80% of all pregnant women against tetanus, while ORT aimed to teach at least 50% of parents with children age 0-5 years to prevent death from diarrhoea.

In 1990 a national survey was conducted, which revealed varied achievement levels of NPI and ORT by state. To assess the effect of the promotional strategy, after a pilot survey and a thorough evaluation of the promotional strategy two areas from state capital in addition to two local government areas were selected for a statistical study.

The study revealed that most people in Nigeria were found to be aware of the NPI/ORT programmes and some were even convinced of the value of the programme, yet were not ready to voluntarily participate in them. Health workers should be more intensively and extensively used to promote and sustain the programme, while the Government should intensify mass literacy campaign.

Key Words: Immunization; Rehydration; Dehydration; Universal Child Immunization (UCI); Dephteria Pertussis and Tetanus (DPT).

INTRODUCTION

In 1976, the World Health Organization (WHO) adopted as its main social target the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead socially and economically productive lives (Creese & Henderson, 1980). One of the strategies for attaining this target was to provide immunization services for the world's children by 1990. This was the goal of Expanded Programme on Immunization.(1) Nigeria adopted this programme in 1978. According to the Federal Government of Nigeria and UNICEF (1984a, p. 2).

> Over twelve percent of children born in Nigeria die from childhood diseases before they reach the age of one. Those who survive most become disabled for life. These childhood diseases are measles, poliomyelitis tetanus, whooping cough, tuberculosis, and diphtheria. The above can be prevented through immunization. Immunizations are

(1) Note: Nigeria changed the programme title from "Expanded" to "National" in 1996. In this study both will be used inter-changeably.

special injections given to children to help their bodies fight against diseases. These injections contain special medicine called vaccine.

Creese and Henderson (1980) concluded that substantial increases in investment were required to provide immunization services. In spite of systemic under-estimation of the benefit of immunization, there is general evidence of positive and often very high returns for such investment.

Another dangerous killer of our children is diarrhoea. Diarrhoea is the passing of watery stools three or more times a day. Diarrhoea is dangerous because it causes dehydration and loss of minerals easily leading to death. Diarrhoea also causes malnutrition through the loss of food nutrients from the body. This weakens the child's immune system so he falls ill easily (FGN/UNICEF, 1984b).

The National Programme on Immunization (NPI) was designed to immunize 80% of all children age 0-24 months before 1990 and to vaccinate 80% of all pregnant women against tetanus. The Oral Rehydration Therapy (ORT) was designed to teach at least 50% of parents with children age 0-5 years how to prevent death from diarrhoea with simple and inexpensive home-made salt-sugar solution to rehydrate children with diarrhoea. In order to achieve these objectives, free NPI injections were made available in all government-owned clinics, hospital and health centres. The above health institutions offer ORT services and also teach mothers the home management of diarrhoea.

According to the Federal Government of Nigeria (FGN/UNICEF, 1984a):

1. Every Nigerian parent needs to understand the value of immunization and importance of vaccinating children before they fall ill of any of the diseases preventable with vaccination.
2. Every mother needs to understand why she must take her child to the clinic, not just once, but repeatedly to complete all the required doses because only then the child is fully protected.
3. Every family member needs to learn to correctly prepare and use the salt-sugar-solution and practice ORT at home. They also need to practice healthy habits in order to avoid diarrhoea.

The Federal Government of Nigeria further emphasized that there is need to educate, convince and motivate mothers to take advantage of the programme, as this will enable them to:

1. Decide if it is worthwhile to sacrifice time and money to complete the doses.
2. Learn how to prepare salt-sugar-solution at home.
3. Recognise the early signs of dehydration.
4. Have faith on the efficacy of ORT and to prepare and use it when necessary.
5. Know when to seek additional help.

With the help of Nigerian nurses and midwives a plan of action was set up to overcome most of the problems preventing full immunization coverage. One such problem was to help mothers understand the value of immunization and the need for complete protection. To achieve this, all community resource must be mobilized and to educate, encourage, remind, even pressure mothers and families to take children to the vaccination centres on all scheduled time and dates.

Nigeria is divided into four zones. Each local government area is divided into

clusters with permanent facilities as a focal point for immunization activities in the area. The head of such facilities has an important role to play in ensuring that all babies and pregnant women in his/her area receive vaccination and utilise the ORT.

The strategies that follow were adapted to promote NPI and ORT. First was the formation of partnership in the health strategy committee to restructure the existing multiministerial NPI committee to include representatives of non-government organisation. This would broaden its base for the participation of all sections of the community. Second, publication of information/promotion materials to support the programme. Third, direct interpersonal and group activities in target communities to inform and remind mothers of vaccinating dates and time. Fourth, participation of service clubs and other social organisations to reinforce the message of immunization to members, friends and associates. Fifth, formal approach to prominent sons and daughters of the area to increase the visibility and credibility of the programme. Sixth, enlist of traditional rulers, Emirs, Obas, and village heads to mobilize rural communities. Seventh, use of mass media to raise public awareness of the availability of vaccine and to generate support for the programme (FGN/UNICEF, 1984c).

By the end of 1990, the Federal Government decided to conduct a national survey to assess the achievement of universal child immunization (UCI) in Nigeria. The result showed that DPT 3(2) achieved 81.1% which meant that Nigeria achieved UCI 1990 target on crude data (FMOH, 1991). The report concluded that only sixteen states achieved UCI out of 30 states (FMOH, 1991). The report showed Anambra leading in Zone A in both crude and validated data. In Zone B, Ondo lead on crude data, but fell to the third position on validated data. In Zone C Abuja and Kwara tied in crude data, but Kwara fell to second position on the validated data. In Zone D Borno ranked first in crude and validated data.

From the above analysis, the need to evaluate the promotional strategy adopted for NPI/ORT programme in Nigeria became not only necessary but essential and timely. There was need to know why some mothers did not give their children immunization and the reason for the increasing number of defaulters. There was also a need to know why some states were able to reach the UCI target while other states could not.

In carrying out this research I adopted the following hypotheses.

HYPOTHESES

Ho_1 There is no significant difference in the level of awareness of NPI/ORT programme between states that were able to reach the UCI target and states unable to do so.

Ho_2 There is no significant difference on the level of understanding of the value and possible benefits of NPI/ORT programme in states were able to reach the UCI target and states unable to do so.

Ho_3 There is no significant difference on the level of belief that their children need

(2) Note: Depisteria, Pertussis and Tetanus are taken at the same time, three times—DPT 1, DPT 2, DPT 3.

immunization between states that were able to reach the UCI target and states unable to do so.

Ho_4 There is no significant difference in the practice of ORT between those states that are able to reach the UCI target and states unable to do so.

Ho_5 There is no significant difference on the level of conviction of the effectiveness on the NPI/ORT programme between states that were able to reach the UCI target and states unable to do so.

NATIONAL (EXPANDED) PROGRAMME ON IMMUNIZATION (NPI)

The Executive Director of UNICEF observed 10 years ago when the World Health Organization announced the target of Universal child immunization by the end of 1990, fewer than 20% of the developing world's children were immunized. He concluded that approximately 5 million children a year were dying of preventable diseases and a half a million a year were being crippled by polio (FMOH, 1984).

Akinkugbe (1986) contended that without immunization, an estimated 216,000 Nigerian would die from the preventable diseases every year. According to the World Development Report 1983, Nigeria, when compared with developed countries, showed a very high percentage of infant childhood mortality and morbidity rate.

According to Hector-Goma (1987), immunization was one of the most powerful and cost-effective weapons of modern medicines. Standfield (1973) observed that not only can the individual child be protected, but also the community and that because most villagers would not gladly go a long way for preventive medicine, successful community immunization in the rural area depended upon taking the services to the people.

According to Zaltman and Vertinsley (1971), most immunization services depended on health awareness even with no cost and short physical distance. To mobilize people in less developed countries to take advantage of immunization services on voluntary basis, Kotler (1975) contended that effective communication was only a part of the total requirement to the successful marketing of the idea. The adoption of an idea, like the adoption of any product requires a deep understanding of the needs, perception of reference groups and behaviour pattern of the target market and the tailoring of message, media cost facilities to maximize the ease of adopting the idea. According to Coulson and Colis (1984), communication could be informative and/or persuasive. Persuasive communication would have some effect on the attitude and behaviour of the target audiences.

METHODOLOGY

In order to carry out the study effectively, two areas from the state capitals in addition to two local government headquarters were selected for the study. The selection of those states was based on the National Immunization Coverage Survey

Report of 1991. Those states that scored the highest and those that scored the lowest on validated data from each zone were selected.

Both primary and secondary data were used in the study. The sample frame for this study was drawn from women with children aged 0 to 36 months from the eight selected states. The immunization age is 0-24 months, but we extended the survey age to 36 months in order to include mothers who completed the immunization and those who failed to do so.

For the purpose of fair representative sampling from research universe, the WHO-recommended 30 cluster-sampling method was adopted. According to Chisnall (1973), although cluster and area sampling were attractive in terms of time and cost, the drawback was that they tended to increase the sampling error.

For accuracy I adopted probability and non-probability sampling techniques in this study. Based on the observation of Spurr and Bonini (1973) I sampled 320 respondents from each of the states selected for the study instead of 210 respondents from each state recommended and used by the WHO.

Chrisnall (1973) contended that people of a particular area of a town tended to be more like each other than the people of other areas. Areas from each state capital in addition to two local government headquarters were selected for the study.

The sample of respondents in the state capital was obtained using a simple two-stage area. The total number of streets in each area was taken to be first stage population. For this purpose, streets were numerically coded. This enabled street selection using random sampling method.

We took random sampling of 10 streets from each of the two areas and a systematic sampling of eight individual respondents from each street. In order to obtain the interval between the households in which interview were conducted the number of houses located in each street selected for the study was counted and the total obtained was divided by 8. The starting point was randomly selected. Eighty respondents were randomly sampled from each local government headquarter in addition to 160 respondents from the state capitals.

T-test statistical analysis was used to test for a significant difference between those states that were able to reach the UCI target and those that were not able to reach the target.

The data were collected, encoded and processed through an IBM PC using SPSS with t-test procedure for test for significant difference between the two independent sample means.

ANALYSIS OF FINDINGS AND DISCUSSION

Out of the total of 2,560 copies of questionnaire distributed in the eight states selected for the study, a total of 2,243 (87.62%) of questionnaire were collected. The majority of the respondents were married, and 18 were single. The respondents were within the age range 20-40 years. Most of the respondents have secondary education, and few with post-secondary education were evenly distributed among the 8 states. The majority were traders, closely followed by farmers and junior civil servants or equivalent and a few senior civil servants. The religion was mostly

Christianity in the South and Islam in the North.

In order to assess the effect of promotional strategy adopted for the promotion of NPI/ORT programme, I examined the consumer level of awareness, understanding, belief, practice and conviction of the effectiveness of the programme.

CONSUMER LEVEL OF AWARENESS OF NPI/ORT PROGRAMME

Before consumption can take place, consumers must be aware of the products and services. The purpose of communication is to get some response from the audience. Based on the above statement we were interested to know whether or not our respondents were aware of the NPI/ORT programme. The respondents were therefore asked to state whether they were very much aware, aware, or not aware of the NPI/ORT programme.

It therefore becomes necessary to test the significance in the difference in order to make any valid generalization about the population.

Hypothesis 1

> There is no significant difference on the level of awareness of NPI/ORT programme between those states that are able to reach the UCI target and those that are not able to reach.

The t-test involves comparison of the mean scores on the awareness of the NPI/ORT programme of states that were able to reach the target. The reuslt shows that the states that reached the UCI target reported a mean score of 2.7459 (with standard deviation of .436) against 2.9393 (sd = .239) for the states unable (See Appendix 1).

T-test between the two means was statistically significant at .05% confidence level with an observed t value of −13.09 for the two-tailed probability, $P<.05$. Thus, the null hypothesis of no significant difference on the level of awareness of the EPI/ORT programme between states that were able to reach the UCI target and states unable to do so was rejected.

CONSUMER LEVEL OF UNDERSTANDING OF VALUE AND BENEFITS OF NPI/ORT PROGRAMME

Marcus (1975) argued that before consumers accepted a certain product or service, they needed fuller knowledge of the product and service in terms of value and benefit. To examine whether or not consumers actually understood the value and possible benefit of the NPI/ORT programme, the respondents were asked to indicate whether they fully understood, understood or did not understand the value and possible benefit of the programme.

Hypothesis 2

> There is no significant difference on the level of understanding of the value and possible benefits of NPI/ORT programme in states that were able to reach the UCI target

and states unable to do so.

The t-test involved comparison of the mean scores on the level of understanding of the value and possible benefit of the NPI/ORT programme of the states that were able to reach UCI target and states unable to do so (See Appendix 1).

The result showed that the states that were able to reach the UCI target reported a mean score of 2.7306 (with sd= .444) against 2.7889 (sd= .408) for the states unable to do so. The two means differed significantly at the .05% confidence level with an observed t value of −3.24 for the two-tail probability; P<.05. Thus, null hypothesis of no significant difference on the level of understanding of the value and possible benefit of the NPI/ORT programme between states that were able to reach the UCI target and states unable to do so.

CONSUMER LEVEL OF BELIEF THAT THERE CHILDREN NEED IMMUNIZATION

The knowledge of a product is not enough for consumers to accept the product. They must make a decision. To arrive at the decision, consumers must embark upon information acquisition from internal and external sources. The knowledge acquired from these sources may influence consumer belief. Mahatoo (1985) contended that such belief were the building block of attitudes. With this understanding I asked the respondents to state whether they strongly believed, believed, or did not believe that their children needed immunization.

Hypothesis 3

There is no significant difference on the level of belief that their children need immunization between the states that were able to reach the UCI target and states unable to do so.

The t-test statistical analysis involved comparison of the mean scores on the level of belief that children need immunization between the states that reached the target and the states that did not reach the target (See Appendix 1).

The result shows that the states that were able to reach the UCI target reported a mean score of 2.7676 (with sd= .423) against 2.5638 (sd= .496) for the states unable to do so. A t-test of significant between the two means was statistically significant at the .05% confidence level with an observed t-value of 10.46 for two-tailed probability P<.05. Thus the null hypothesis of no significant difference on the level of belief that children need immunization between states that reached the target and states that were unable to do so was rejected.

The knowledge of a product is not enough for consumer to take action or purchase a product or service. They must embark upon information acquisition from internal and external sources to build their beliefs. Beliefs are predispositions accepted as truth and supported by strong facts for other information.

This is also true for NPI/ORT programme, as suggested by the National Immunization Coverage Survey Report of 1991. One of the reasons for immunization failure was “wrong” ideas. Beliefs can be formed as a result of information

from friends, family and peer group or from personal past experience. This statement is supported by Harkin, *et al.* (1983): Since we are not born with beliefs, it is important to recognise that we formulate beliefs as a part of the consumer socialization and learning process of acquiring information from our culture, family, peer groups, media and other sources.

CONSUMER PRACTICE OF IMMUNIZATION

If the consumers believed that their children needed to be immunized then they must have given their children immunization. We, therefore, asked the respondents to state whether or not they gave the children immunization. The majority claimed that they had. To those who had not, the reasons were asked. A few striking responses are listed below.

REASONS WHY CONSUMERS DO NOT PRACTICE IMMUNIZATION

(a) The centre is too far.
(b) My husband advised me not to go.
(c) I am saved by the blood of Jesus.
(d) I have no reason.
(e) I have no time.
(f) I always forget the date.
(g) My child was sick from birth.
(h) I do not like it.
(i) Fear of the needle.
(j) My neighbour's child got sick, almost to death after the immunization.

The above shows a clear lack of understanding of the value and benefit of immunization. The decision to accept an idea or not to accept is individual. One may accept advice or even yield to external pressure, but to take action rests with the individual. In the promotion of NPI/ORT programme, the promoter should be interested in both the individual's internal decision process and the environmental influences on the individuals so as to design promotional models to influence their decision.

REASONS WHY CONSUMER DISCONTINUE IMMUNIZATION

For immunization to be effective, mother must complete five doses of the vaccine at the right time. The respondents were, therefore, asked to state whether or not they had completed their immunization. Some reasons given for not completing the doses are as follows:

1. My child fell sick after first dose and so my husband advised me to stop.
2. Pain of the needle seemed so great I almost cried with my child.
3. I missed my appointment so I decided to discontinue.

4. The time spent on the immunization day is rather too long.
5. My husband did not give me transport money.
6. I have no time yet, but I shall continue.
7. The centre is too far from my house.
8. I always miss immunization date and time.
9. I have given my child three doses, and that is enough.
10. I have no reason.

The above shows poor knowledge of the programme. The incomplete doses are useless and will not give the desired protection. The mother should be taught what to do in case of side effect. Both the father and mother should be able to compare the side effect and the pain of the needle with the gravity of affliction by the actual diseases. They should know that healthy children are assets to their family and also that time spent on immunization days should never by regarded as waste. Those who have no time should be reminded that since sickness strikes without notice, procrastination could be dangerous.

CONSUMER PRACTICE OF ORAL REHYDRATION THERAPY

The ORT was designed to teach at least 50% of parent with children aged 0-5 years how to prepare and use salt-sugar-solution to rehydrate a dehydrated child caused by diarrhoea (FMOH, 1984). Although we do not deal intensively on the ORT, as twin programme, it is believed that those who accept the NPI will also accept ORT. They were launched together but government placed more emphasis on NPI because of poor result. Nevertheless, we were interested to know how far the respondents have accepted this programme. The respondents were therefore asked to state whether or not they do practice ORT.

Out of a total of 1106 respondents from high-scoring states 815 or 73.69% said they practised ORT while 291 or 26.31% of the respondents said that they did not. On the low-scoring states, out of 1137 respondents 692 or 60.86% had ORT while 445 or 39.14% said they did not.

Hypothesis 4

> The null hypothesis to be tested is that there is no significant difference in the practice of ORT in states that were able to reach the UCI target and states that were unable to do so.

With 2241 degree of freedom for the two-tailed statistical test, the comparison of the means scores on the practice of ORT between the states that are able to reach the UCI target and states unable to do so, was significant. The result shows that the states that were able to reach UCI target reported a mean score of 1.888 (with sd＝.315) against 1.9393 (sd＝.239 for the states that were unable to reach the target. A test of significance between the two means was statistically at the .05% confidence level with an observed t-value of−4.29 for the two-tailed probability ($P < .05$). Thus, the null hypothesis of no significant difference was rejected (See Appendix 1).

There were some respondents who did not accept the programme. It therefore became necessary to examine the reason for their failure. The reasons were various

and many, and some examples are as follows:

1. The effect seemed too slow.
2. I do not like it.
3. I tried once; it was not effective.
4. I do not remember how to mix it.
5. I forgot the quantity to be given.
6. I have no reason.
7. I do doubt the efficacy of the ORT.
8. I am used to antibiotics.

The above shows lack of faith, belief and patience. As already stated for the ORT to be successful, health workers and voluntary organization must accept it and help others to accept also, and mothers should be taught the correct measurement and how to administer the solution.

CONSUMER CONVICTION OF THE EFFECTIVENESS OF THE NPI/ORT PROGRAMME

The consumers are aware of the NPI and also ORT and have been practising both. At this point it was necessary to find out how they felt about the programme. The respondents were therefore asked to state whether they were very convinced, convinced, partly convinced, or not convinced of the effectiveness of NPI/ORT programme.

Hypothesis 5.

> The null hypothesis is that there is no significant difference on the level of conviction of the effectiveness of NPI/ORT programme between states that were able to reach the UCI target and states unable to do so.

With 2241 degrees of freedom of the two-tailed statistical test, the comparison of the means scores on the level of conviction of the effectiveness of the NPI/ORT programme between the states that were able to reach the UCI target and states that were unable to do so was statistically significant (See Appendix 1).

The results show that the states taht were able to reach the UCI target reported a means score of 3.5362 (with sd = .844) against 3.5031 (sd = .610) for the states that were unable to reach the target. A t-test of significance between the two means was statistically non-significant at the .05% confidence level with an observed t-value of 1.07 for the two-tailed probability: $P > .05$ Thus, null hypothesis of no significant difference on the level of convinced of the effectiveness of the NPI/ORT programme was accepted.

The level of conviction of the effectiveness of the programme was encouraging. This means that most consumers are satisfied with the performance. In order to increase the number of consumers accepting the programme the result should be made known to people from time to time. Although most people are convinced, only some people took action. To get more people to take action, people must be encouraged to strictly follow the immunization time table and must be reminded of date and time.

Every effort must be ensured that all the information from the agencies are well integrated and co-ordinated so that they are not likely to contribute to dissatisfaction by creating false expectation. This can be avoided through creative advertising.

CONCLUSION AND RECOMMENDATION

The study has revealed that the NPI/ORT lacked sufficient attention by the people in practical terms. That is, although most people are aware of the programme, and some understand the benefits of the programme and the need to immunize their children. Yet they are not ready to take voluntary action the programme requires. Although some claimed to be convinced of the effectiveness of the programme they needed motivation to take action to sustain the programme.

Most husbands pay little or no attention to the programme as such, nor encourage their wives to take action. The study revealed that most of them do not understand the value and possible benefits of the programme, and are not interest in the programme. The attitudes of these husbands therefore affect the interest of their wives.

The levels of social, cultural and economic development have a great impact on the acceptability of the programme. Most consumers are educationally needy, while some are culturally not allowed to go out freely, and the level of income is likely to be low. The people are not interested in the programme that does not give them immediate benefits.

We therefore make the following recommendations:

1. Husbands should be taught the value and benefits of NPI/ORT programme through seminars. These seminars should be arranged by chiefs of the community. The health specialists should be invited from time to time to speak to them. The seminars should include teaching husbands how to prepare and use salt-sugar solution.
2. Health workers, mostly women, should be used in the North where married women are not freely allowed out to carry out house-to-house immunization.
3. The government should continue mass literacy campaign to educate people.

REFERENCES

Akinkugbe, F. M. 1986. The Role of community-based physiotherapists in Expanded Immunization Programme. In (O.I. Owoeye, A.O. Banya & O.S. Algbogua eds.) *Community Physiotherapy.* Federal D.Sc. (Emene-Enugu) of Social Development Directorate Nigeria, pp. 55-58.

Bonini, W.A. & Spurr, C.P. 1973. *Statistical Analysis for Business Decision.* Richard D. Irwin, Homewood, Illinois.

Chisnall, Peter 1973. *Marketing Research: Analysis and Research.* John Wiley and Son, New York.

Coulson, T. & Colis, J. 1984. *Marketing Communication.* Institute of Marketing, London.

Creese, A.L. & Henderson R.H. 1980. Cost-Benefit analysis and immunization programmes in developing countries. *Bulletin of World Health Organization*, 58(3) 491-497.

Federal Government of Nigeria/UNICEF 1984a. *Promoting Child Survival Revolution (EPI/ORT) through the School.* FMOH, Lagos.

Federal Government of Nigeria/UNICEF 1984b. *Establishing ORT Unit in Nigerian Hospital and Clinic.* FMOH, Lagos.

————1984c. *Community Education and Mobilization: How to Set up Partner in Health.* FMOH, Lagos.

Federal Mimistry of Health 1984. Social Mobilisation for Health Case. FMOH, Lagos

————1991. National Immunization Coverage Survey Report. FMOH, Lagos.

Hawkins, D.I, R.I. Best & K.A. Coney 1983. Consumer Behaviour. Business Publication Inc., Plano, Texas, USA.

Hector-Goma, A. 1987. Immunization Change for which Child. *Mediport*, Vol. 1, May, p. 2.

Kotler, P. 1975. *Marketing for Non-Profit Organisations.* Prentice-Hall Inc., Englewood, Cliff, New Jersey.

Mahatoo, Winston N. 1985. *The Dynamics of Consumer Behaviour.* John Wiley and Sons, New York.

Marcus, B.H. 1975. *Modern Marketing.* F. Random House, Inc., New York.

Stanfield, P. 1973. Immunization under Five. In (Mauries King ed.) *Medical Care in Developing Countries.* Oxford University.

Zaltman, G. & Vertinsley 1971. Health services marketing: A suggested model. *Journal of Marketing*, (July) pp.19-27.

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Author's Name and Address: Paulinus P. EKERETE, *Lecturer in Marketing, Department of Business Administration, Faculty of Management Sciences, River State University of Science and Technology, Port Harcourt, NIGERIA.*

APPENDIX 1.

Hypotheses	No. of Cases	Mean	Standard Error	Size level	Decision
Ho_1	Group 1, 1106 Group 2, 1137	2.7459 2.9393	0.013 0.007	.05	rejected
Ho_2	Group 1, 1106 Group 2, 1137	2.7306 2.7889	0.13 0.12	.05	rejected
Ho_3	Group 1, 1106 Group 2, 1137	2.7676 2.5638	0.013 0.015	.05	rejected
Ho_4	Group 1, 1106 Group 2, 1137	1.8888 1.9393	0.009 0.007	.05	rejected
Ho_5	Group 1, 1106 Group 2, 1137	3.5362 3.5031	0.025 0.018	.05	accepted

Group 1: States able to reach the UCI level of 80%
Group 2: States unable to reach the UCI level of 80%